

(19) World Intellectual Property Organization  
International Bureau



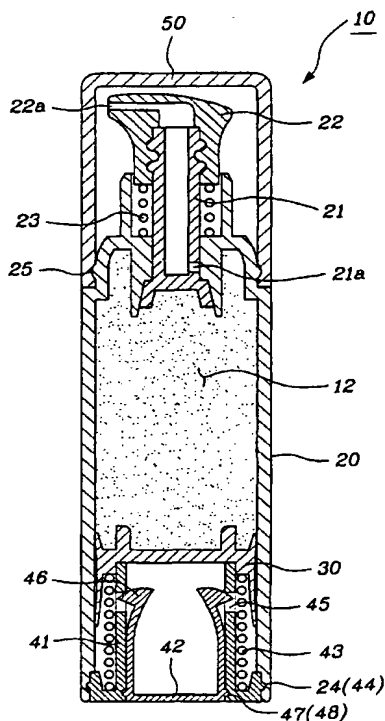
(43) International Publication Date  
6 September 2002 (06.09.2002)

PCT

(10) International Publication Number  
WO 02/067721 A1

- (51) International Patent Classification<sup>7</sup>: A45D 34/00 (81) Designated States (*national*): AF, AG, AI, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (21) International Application Number: PCT/KR01/01108
- (22) International Filing Date: 28 June 2001 (28.06.2001)
- (25) Filing Language: Korean
- (26) Publication Language: English
- (30) Priority Data:  
2001/5074 U 26 February 2001 (26.02.2001) KR
- (71) Applicant: KANG, Seong, Il [KR/KR]; 201-1906, Shin Ahn Apt., 879-16, Bono-dong, Ahnsan-si, Kyeonggi-do 425-180 (KR).
- (74) Agent: HA, Moon-Soo; Ya Jeong Building 4F, 736-16, Yeoksam-dong, Kangnam-pku, Seoul 135-080 (KR).
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IL, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: COSMETIC SAMPLE BOTTLE



(57) Abstract: The present invention relates to a cosmetic sample bottle (10) with a built-in a pump, more specifically, relates to a cosmetic sample bottle (10) which has a constitution being able to be used about 1-3 times and embodies to pumping the contents (12) well. The cosmetic sample bottle (10) of the present invention comprises a transferring pipe (21) provided with an inlet (21a) and interposed to the upper end of the main body (20) in which the cosmetic contents (12) are contained, a nozzle (22) provided with an outlet (22a) and coupled to the upper end of the transferring pipe (21), a first spring (23) interposed between the main body (20) and the nozzle (22), a first cap (41) and a second cap (42) coupled to the bottom end of the inner of the main body (20), a piston (30) inserted between the upper end of the first cap (41) and the contents (12), and a second spring (23) interposed between the first cap (41) and the piston (30). When the nozzle (21) is pressed, the first spring (23) is pressed and the transferring pipe (21) is descended simultaneously by the nozzle (21), thus the contents (21a) are discharged outside through the inlet (21a) and the outlet (22a), and the piston (30) is ascended by a force of the second spring (43).

BEST AVAILABLE COPY

WO 02/067721 A1

## Cosmetic Sample Bottle

### FIELD OF THE INVENTION

The present invention relates to a cosmetic sample bottle, more specifically,  
5 relates to a cosmetic sample bottle which can be used about 1~3 times in a cosmetic sample bottle with a built-in a pump.

### BACKGROUND OF THE INVENTION

Generally, a cosmetic sample bottle is a compact sample manufactured in order  
10 to be able to be used in several times. The size of a cosmetic sample bottle is merely few cm, and the amount of the contents contained it can be only used few times.

As shown in FIG. 1, the cosmetic sample bottle with a built-in a pump is only reduced in size and has the same structure as the original cosmetic bottle, therefore manufacturers have been suffered from manufacturing cosmetic samples because they  
15 cost substantially as same as the original cosmetics.

### SUMMARY OF THE INVENTION

The present invention is contrived in order to solve the above mentioned problem of the prior art, and an object of the present invention provides a cosmetic  
20 sample bottle which can be manufactured in simple structure and in low price.

In order to achieve above purposes, the present invention provides a cosmetic sample bottle comprising, a transferring pipe provided with an inlet and inserted on the upper end of an main body in which cosmetic contents are contained, a nozzle provided with an outlet and connected to the upper end of the transferring pipe, a first spring  
25 interposed between the main body and the nozzle, a first cap and a second cap

incorporated to the bottom of the inlet of the main body, a piston inserted between the upper end of the first cap and the contents, and a second spring interposed between the first cap and the piston, wherein when the nozzle is pushed, it presses the first spring and makes the transferring pipe to be lower simultaneously, then the contents are discharged outside through the inlet and the outlet, and the piston is risen by elastic force of the second spring.

### BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a sectional view showing the cosmetic sample bottle according to the prior art.

Fig. 2 is a overall sectional view showing the cosmetic sample bottle according to the present invention.

Fig. 3 is an exploded view showing the cosmetic sample bottle shown in Fig. 2.

Fig. 4a to Fig. 4e are figures showing the assembling process in sequence of the cosmetic sample bottle shown Fig. 2.

Fig. 5a to Fig. 5c are figures showing operating condition for the cosmetic sample bottle shown Fig. 2.

### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Hereinafter, the preferred embodiments according to the present invention will be described referring to the attached figures.

Fig. 2 is the overall sectional view of a cosmetic sample bottle according to the present invention. Fig. 3 is an exploded view of the cosmetic sample bottle shown Fig. 2. Also, Fig. 4a to Fig. 4e are the assembling process in sequence of the cosmetic sample bottle shown Fig. 2. Hereinafter, the structure of the cosmetic sample bottle (10) will be

described according to the order of the assembling process shown in Fig. 4 referring to Fig. 2 to Fig. 4. The up and down directions to be used in the description hereinafter is based on Fig. 2.

First, as shown in Fig. 4a, the contents (12) of a cosmetic are filled in the main  
5 body (20) with the upside-down. A transferring pipe (21) is interposed in the upper end of the main body (20), and a nozzle (22) is coupled to the upper of the transferring pipe (21). An inlet (21a) which is a inflow path of the contents (12) is formed on the lower of the transferring pipe (21), and an outlet (22a) is formed on the nozzle (22). A first spring (23) is interposed between the main body (20) and the nozzle (22). A groove (24)  
10 is formed on the inner wall of the bottom end of the main body (20), and a protrusion (25) is formed on the outer wall of the upper end of the main body (20). The groove (24) is the part coupled a first protrusion (44) of a cap assembly described hereinafter, and the protrusion (25) is the part in which the cap (50) is incorporated.

Subsequently, as shown Fig. 4b, a piston (30) is inserted in the main body (20)  
15 through the bottom of the main body (20). The side of the piston (30) has elasticity and adheres closely to the inner wall of the main body (20). After the piston (30) is inserted, as shown in Fig. 4c and Fig. 4d, a cap assembly (40) is coupled to the bottom of the main body (20). The cap assembly (40) is coupled to the inner of the main body (22).

The cap assembly (40) comprises a first cap (41), a second cap (42) and a  
20 second spring (43) and so on. The first cap (41) has a first protrusion (44) which is coupled in the groove (24) of the main body (20). The second cap (41) is inserted in the first cap (41), and a protrusion (46) of the second cap (42) is inserted into a through hole (45) formed on the first cap (41). The second spring (43) is compressed on the outer wall of the first cap (41) by the protrusion (46) of the second cap (42). A second  
25 protrusion (48) is formed on the bottom end of the second cap (42), and the groove (47)

is formed on the bottom end of the first cap (41) correspondingly. The bottom end of the second cap (42) is somewhat protruded from the bottom end of the first cap (41). Accordingly, the second protrusion (48) is placed on the outside of the first cap (41). The second cap (42) is composed of a good elastic material, and the second spring (43) has very higher elasticity than the first spring (23).

Subsequently, as shown in Fig. 4e, the second cap (42) is pushed into the inner of first cap so that the second cap (42) is entered in the first cap (41). In this way, the second protrusion (48) of the second cap (42) and the groove (47) of the first cap (41) are coupled with each other, and the protrusion (46) of the second cap (42) is deviated from the through hole (45) of the first cap (41) simultaneously. Accordingly, the second spring (43) is deviated from the protrusion (46) then contacted to the piston (30). The protrusion (46) is deviated from the through hole (45) then bent inward direction because the foremost end of the protrusion (46) has a curved surface as well as the second cap (42) has an elasticity. Through the above process, the assembly of the cosmetic sample bottle (10) shown in Fig. 2 is completed.

Continuously, the operation condition of the cosmetic sample bottle (10) shown in Fig. 2 is described. The structure of the cosmetic sample bottle (10) will be also much clear from the operation of the cosmetic sample bottle (10) described hereinafter. Fig. 5a shows the cosmetic sample bottle before used, and Fig. 5b shows the condition of using the cosmetic sample bottle. Fig. 5c also shows the cosmetic sample bottle after used.

Fig. 5a is equal to the condition in which the cap (50) is uncovered from the cosmetic sample bottle (10) shown in Fig. 2. When the cosmetic sample bottle (10) is not used, the nozzle (22) is ascended by the first spring (23), and the inlet (21a) formed in the transferring pipe (21) is blocked by the main body (20). In addition to, the hydraulic pressure of the contents (12) contained in the main body (20) and the elastic

force of the second spring (43) are in balance with the piston (30) therebetween.

As shown Fig. 5b, when the nozzle (22) is pressed, the nozzle (22) presses the spring (23) and makes the transferring pipe (21) be descended synchronously. Thus, the contents (12) enter into the transferring pipe (21) while the inlet (21a) is exposed to the inner of the main body (20). The contents (12) entered into the transferring pipe (21) are discharged to the exterior through the outlet (22a) of the nozzle (22). Furthermore, the piston (30) in the main body (20) is ascended by the elastic force of the second spring (43) because the pressure in the main body (20) is decreased.

However, when the force pressing the nozzle (22) is eliminated, the nozzle (22) is ascended toward original position by the elastic force of the first spring (23). Thus, the discharge of the contents (12) is stopped while the inlet (21a) is clogged again, then the pressure in the main body (20) is ensured. The condition which the contents are vanished in the main body (20) through such series process for several times is shown in Fig. 5c. At this time, the piston (30) is ascended to the upper end of the main body (20) by the elastic force of the second spring (43).

As described above, in the structure, the cosmetic sample bottle according to the present invention discharges the contents according to the elastic force of the spring and the change of the hydraulic pressure of the contents. Thus the discharging operation is well achieved although the cosmetic sample bottle has as small volume and the contents have a high viscosity. In addition to, the cosmetic sample bottle according to the present invention has an advantage in that it is easily put together.

## CLAIMS

1. A cosmetic sample bottle (10) comprising:

a transferring pipe (21) provided with an inlet (21a) and inserted in the upper end of an main body (20) in which cosmetic contents (12) are contained;

5 a nozzle (22) provided with an outlet (22a) and connected to the upper end of the transferring pipe (21);

a first spring (23) interposed between said main body (20) and said nozzle (22);

a first cap (41) and a second cap (42) incorporated to the bottom end of the inner of said main body (20);

10 a piston (30) inserted between the upper end of said first cap (41) and said contents (12); and

a second spring (23) interposed between said first cap (41) and said piston (30),

wherein the nozzle (22) presses said first spring (23) and makes said transferring pipe (21) to be descended by pushing the nozzle (22), then said contents (12) are discharged

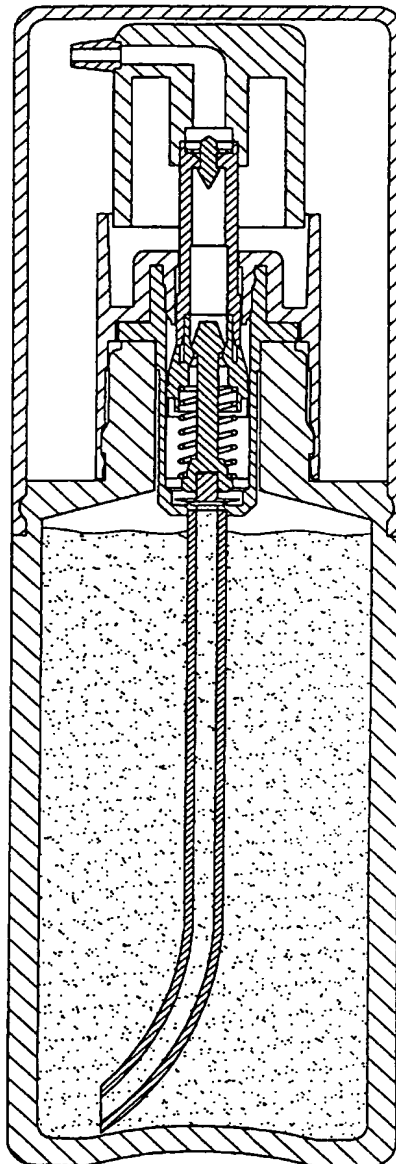
15 outside through said inlet (21a) and said outlet (22a), and said piston (30) is risen by the elastic force of said second spring (43).

2. A cosmetic sample bottle (10) according to Claim 1, wherein said second cap (42) is interposed into said first cap (41) so that a protrusion (46) is inserted into a through hole

20 (45) formed in said first cap (41), and according to this, said protrusion (46) is deviated from said through hole (45) while a second protrusion (48) formed in said second cap (42) is coupled in a groove (47) formed said first cap (41).

1 / 11

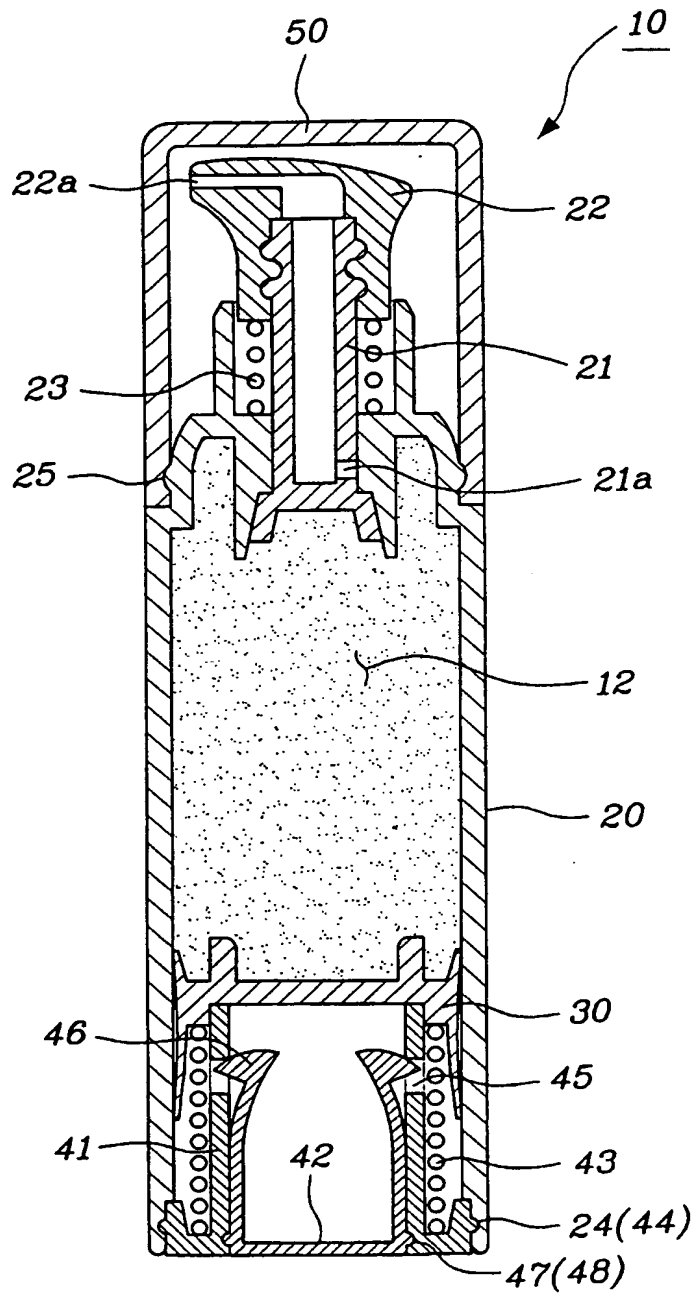
**FIG. 1**





2 / 11

FIG. 2



3 / 11

FIG. 3

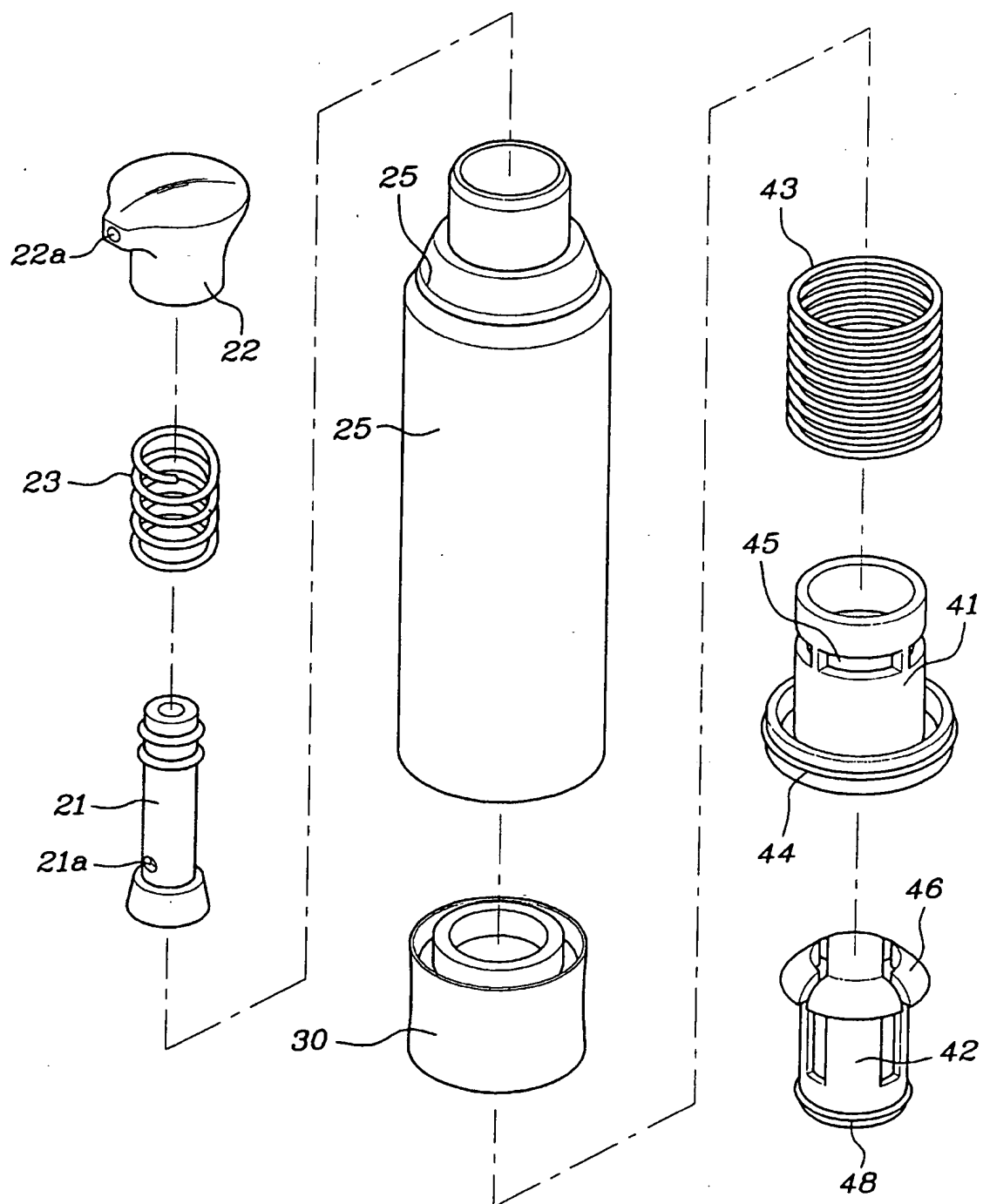
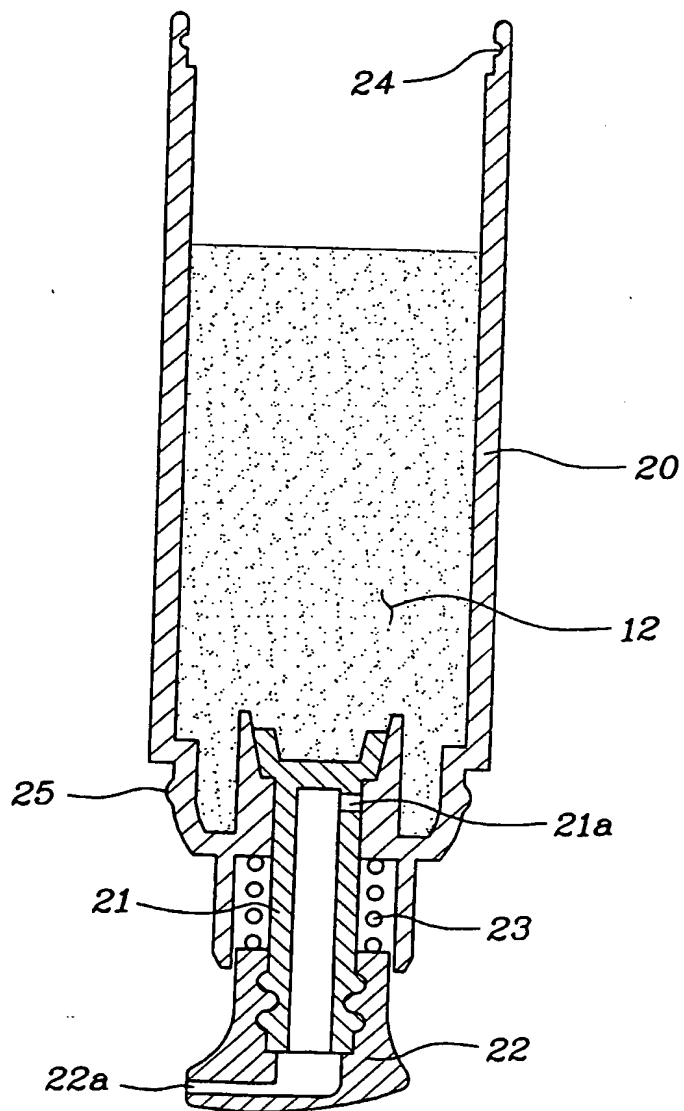
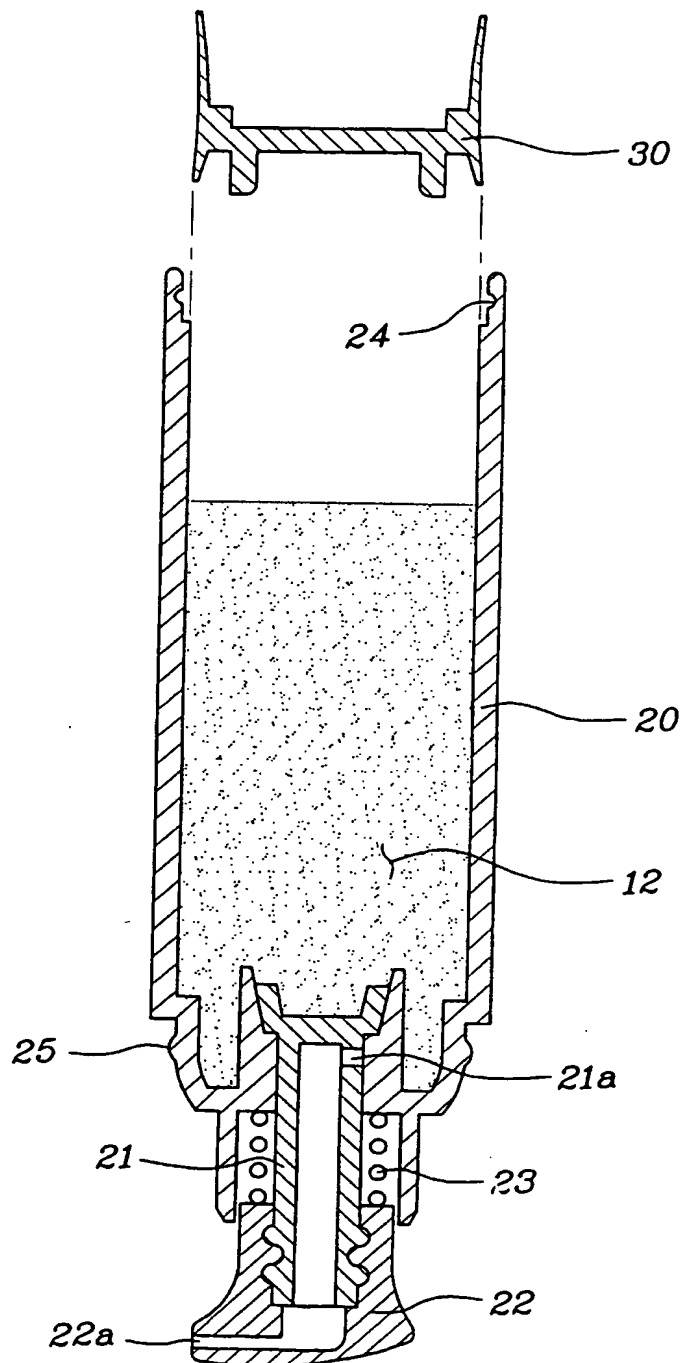


FIG. 4a



5 / 11

FIG. 4b



6 / 11

FIG. 4c

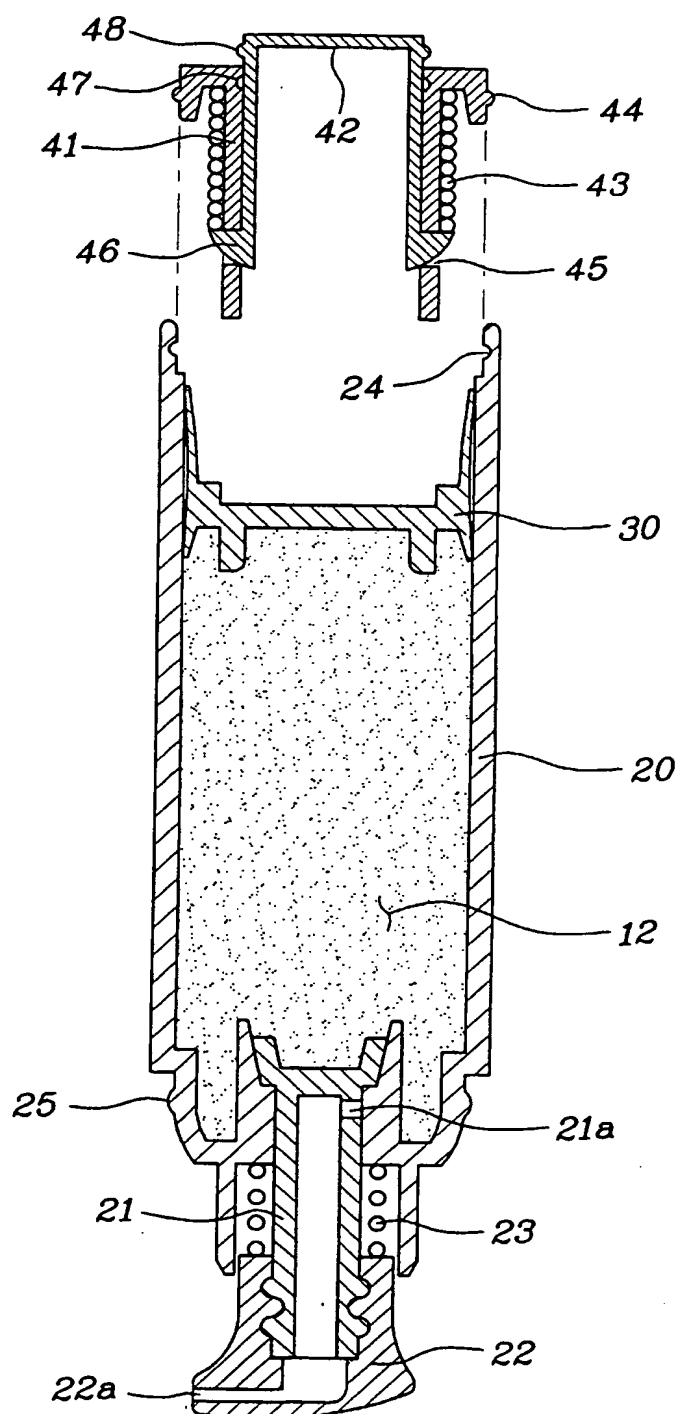
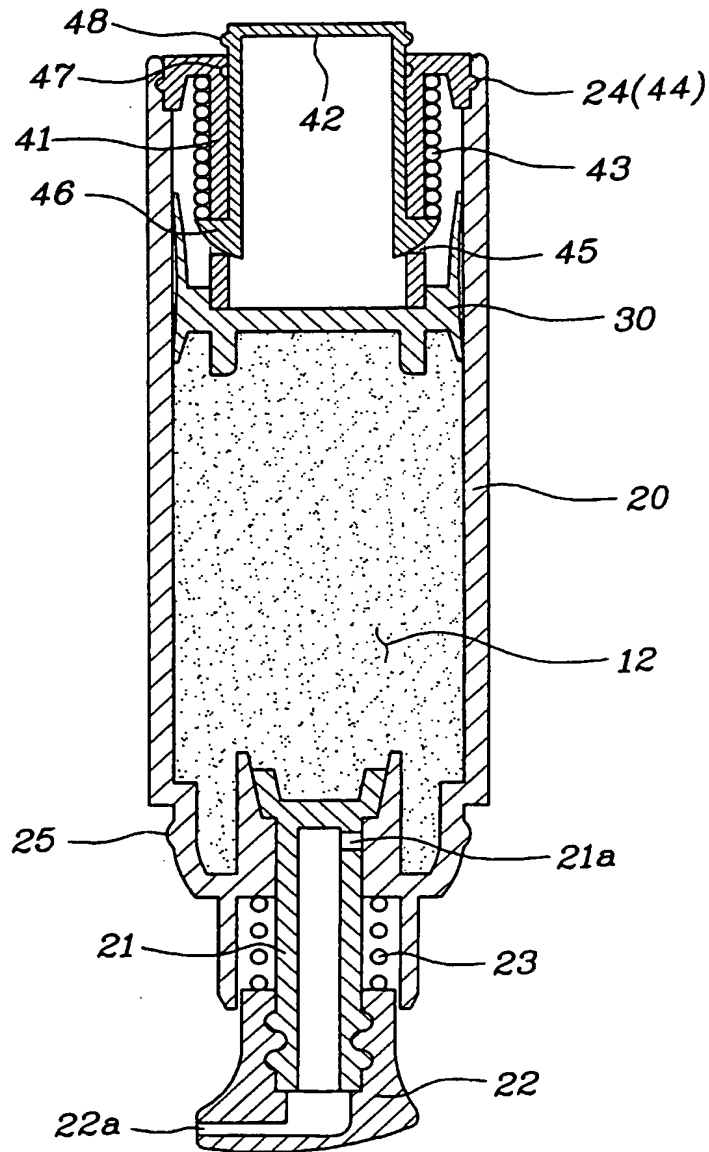
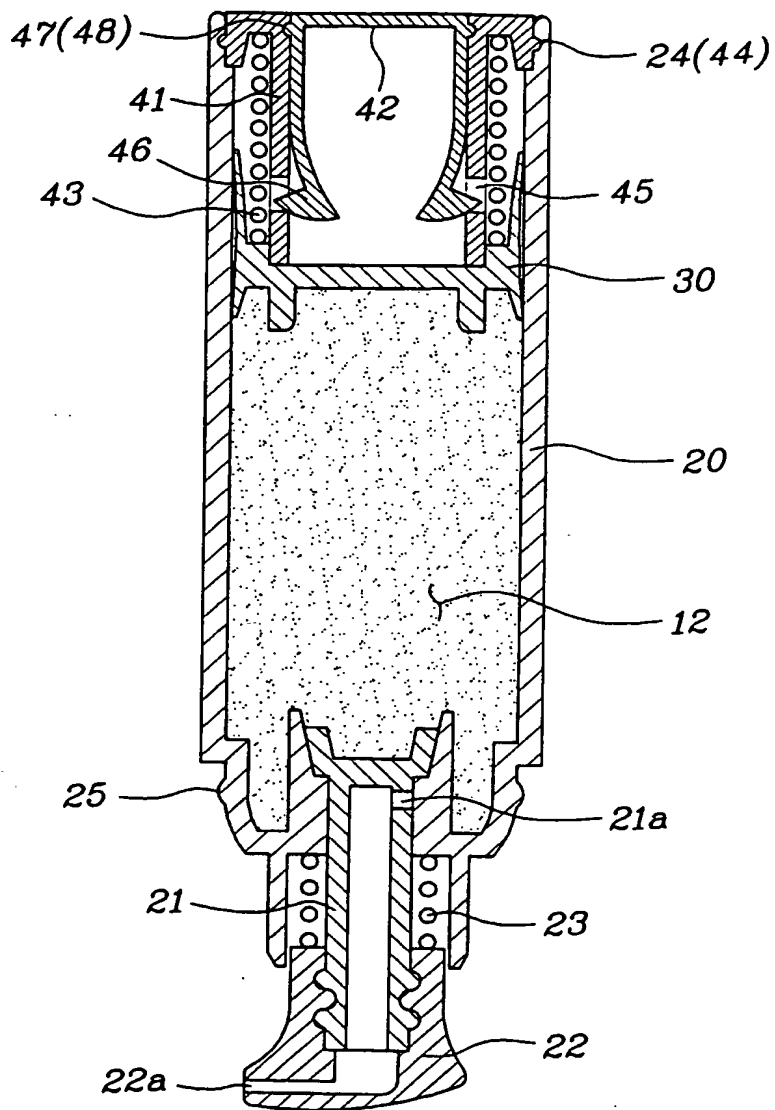


FIG. 4d



8 / 11

FIG. 4e



9 / 11

FIG. 5a

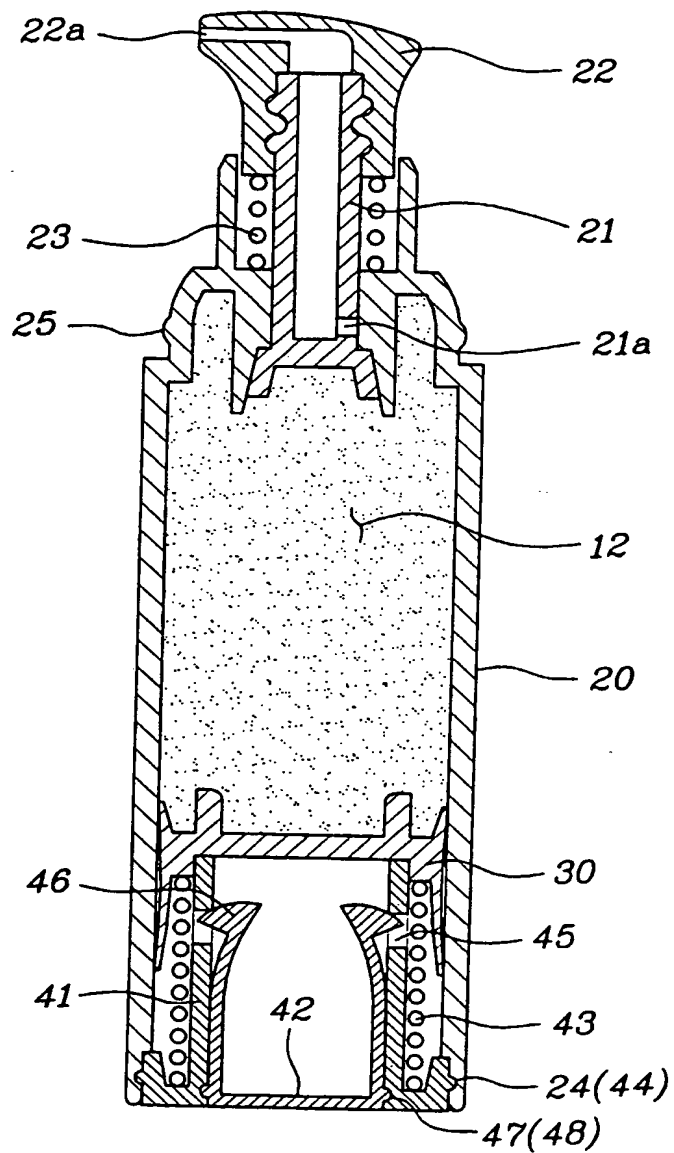
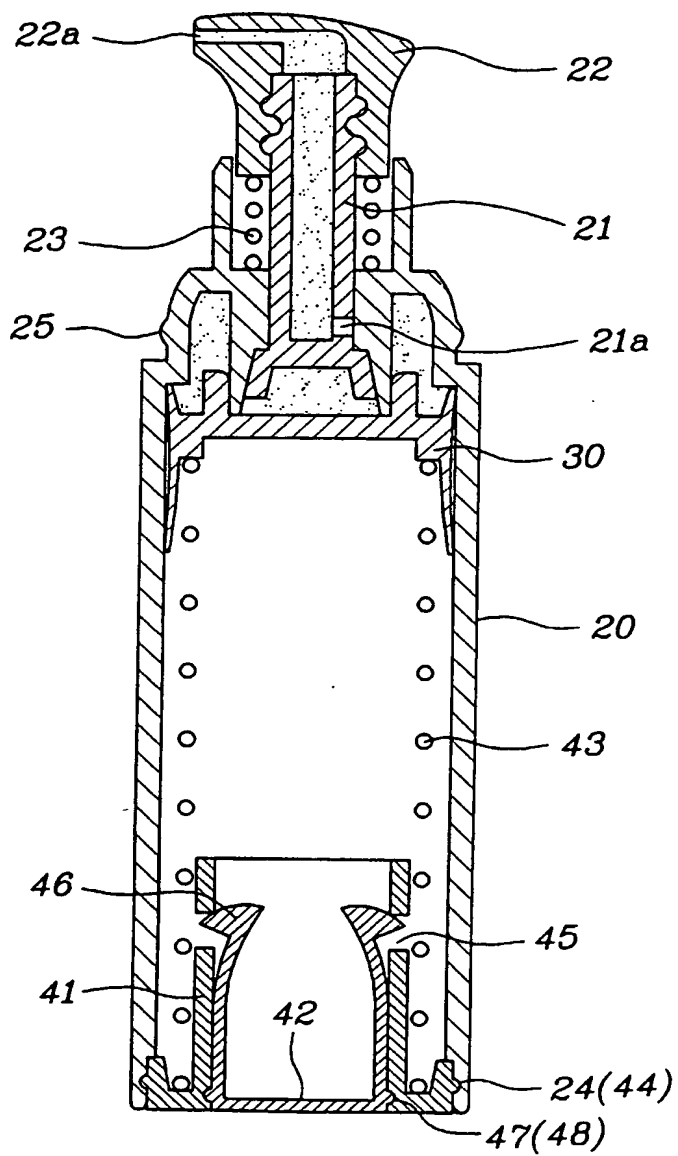






FIG. 5c



## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/KR01/01108

**A. CLASSIFICATION OF SUBJECT MATTER****IPC7 A45D 34/00**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A 45 D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

JP IPC as ABOVE

KR IPC as ABOVE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP61-19567 U ( KABUSHIKI KAISHA YOSINO KO GYO SIO ) 04.FEBRUARY.1986 ( 04.02.86 ) ( FAMILY NONE ) FIGURE 2.	1
A	JP61-48153 U ( SIU BOU KABUSHIKI KAISHA ) 31.MARCH.1986 ( 31.03.86 ) ( FAMILY NONE ) FIGURE 1.	1
A	JP57-87608 U ( DOUSEI YOKI KABUSHIKI KAISHA ) 29.05.1982 ( 29.05.82 ) ( FAMILY NONE ) FIGURE 3.	1
A	JP58-29005 U ( KABUSHIKI KAISHA NIPPON HOM SEF RAI ) 25.FEBRUARY.1983 ( 25.02.83 ) ( FAMILY NONE ) FIGURE 2.	1
A	JP52-59153 U ( FU A IN GOSME TE I KU SEI JO KAISHA ) 28.APRIL.1977 ( 28.04.77 ) ( FAMILY NONE ) FIGURE 1.	1
A	JP63-105664 U ( KAMA HE A GA KAKU KO GYO KAISHA ) 08.JULY.1988 ( 08.07.88 ) ( FAMILY NONE ) FIGURE 3.	1

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

26 NOVEMBER 2001 (26.11.2001)

Date of mailing of the international search report

27 NOVEMBER 2001 (27.11.2001)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office  
Government Complex-Daejeon, Dunsan-dong, Seo-gu, Daejeon  
Metropolitan City 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

WHOANG, Won Taik

Telephone No. 82-42-481-5620



**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☒ FADED TEXT OR DRAWING
- ☒ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☒ GRAY SCALE DOCUMENTS
- ☒ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☒ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**